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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,113	09/10/2004	Kevin M Brunson	124-1092	4141
23117	7590	11/23/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			CHANG, JOSEPH	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/507,113	Applicant(s) BRUNSON ET AL.	
	Examiner Joseph Chang	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/15/05&9/10/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 and 13-24 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1152216 (cited by the applicant).

Regarding claim 1, the EP 1152216 reference discloses mems (2) comprising a substrate (3), an oscillatory member (8), forcing means (5), electrical sensing means (6), a positive feedback circuit (25, see Para[0024]).

Regarding claims 2 and 18, Fig. 3 shows the forcing means (5) comprising two forcers (functional limitation recited in the claim inherently present in the structure).

Regarding claim 3, 4, 19 and 20, Fig. 5 shows two forcers (positive and negative voltages by 25 and 26, see Fig. 5) and Fig. 3 shows two points (5A and 5B) being symmetry and opposite directions.

Regarding claim 5, 6 and 21, Fig. 3 shows the sensing means (6a and 6b) being perpendicular to the symmetry axis.

Regarding claim 7, Fig 3 shows (5 and 11) or (6 and 15) forming a variable capacitance with the oscillatory member (see para[0011]).

Regarding claim 8-10, Fig. 5 shows the positive feedback circuit (25) incorporates phase shifting means (23, 21,22), which is adjustable to maximize the output of the sensing means (see para[0021]-[0025]).

Regarding claim 11, it is inherent that the positive feedback circuit does not include frequency selective component because no description is disclosed.

Regarding claim 17, Fig. 5 shows a synchronous demodulator (27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1152216 in view of Iguchi et al., US Patent 5,587,529.

Regarding claims 12-14, as discussed above, the EP 1152216 reference discloses a mems system including the positive feedback circuit except filter means. As would have been well known in the art, filter means such as an all-pass filter or a high-pass filter are used for eliminate unwanted signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use such filter means because such a modification would have provided the benefit of eliminating unwanted signals.

Regarding claims 15, as discussed above, the EP 1152216 reference discloses a mems system including an oscillatory member except the oscillatory member is a suspended ring. As would have been well known in the art, a suspended ring is used to resonate for oscillation frequency as shown in Iguchi et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use such suspended ring because such a modification would have been a mere substitution of art-recognized equivalent oscillatory member.

Regarding claim 16, having oscillation initiating means for applying an initial impulse to the oscillatory member would have been obvious based on required means to initiate oscillation of the oscillatory member.

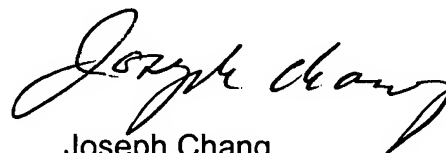
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Chang
Patent Examiner
Art Unit 2817

JC